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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,782	10/15/2001	Jun-Sung Lee	678-628 (P9479)	3718
28249	7590	07/12/2005	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			HARVEY, DIONNE	
			ART UNIT	PAPER NUMBER
			2646	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/977,782	LEE, JUN-SUNG	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dionne N. Harvey	2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 January 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 2 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**1. Claim 2 is rejected under 35 U.S.C. 102(e) as being anticipated by Searle (US 5,603,089).**

Regarding claim 2, shown in **figures 4a & 4b**, Searle teaches an apparatus for forming a beam in a base station, comprising:

In **figure 4b**, a transceiver arrangement, which reads on “a plurality of transmitters”, for transmitting signals, the signals being controlled in beam form according to the number of users in the base station;

In **figure 4b**, Searle teaches that an electrical connection (*shown, but not labeled*) is provided for receiving the signals from the transmitters and transmitting the received signals to an antenna side, said electrical connectors are interpreted as reading on “a coupling block” as claimed;

In **figure 4b**, Searle teaches a switching controlling block for receiving the signals from the coupling block and switching the received signals according to the controlled results to output the switched signals;

In **figure 4a**, Searle teaches an amplifying block **48** for amplifying the signals from said switching controlling block in a certain level and outputting the amplified signals;

and in **figure 4a**, Searle teaches a plurality of matrix buffers **44**, as broadly claimed, for receiving the signals from the amplifying block and switching the received signals to antennas to control beam shapes.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Boesel (US 6,286,994)** in view of **Shapira (US 6,640,111)**.

Regarding claim 1, Boesel teaches an apparatus for forming a beam in a base station, comprising: a plurality of channel cards **710,728** for processing and outputting signals to be transmitted to each channel;

In **figure 7**, Boesel teaches a summer **730**, D/A converter and an up-converter **632**, the combination of which are interpreted as reading on “a signal synthesizer/distributor” for synthesizing the signals and compensating phases of the signals;

In **column 9, lines 29-31**, Boesel teaches microprocessor **714**, for collecting and adding power data from each channel, thereby being interpreted as reading on “at least one channel controller” for controlling beams of the signals from the signal synthesizer/distributor according to a demand of a mobile communication terminal, and outputting the controlled beam signals;

Boesel teaches a **TPTL 120** which performs averaging and compensation operations, thus interpreted as reading on the “at least one middle frequency generating block” for receiving the signals from the at least one channel controller and synthesizing the signals in each frequency to generate middle frequency signals;

an **RFB 634** for amplifying the signals from the at least one transmitter into signals in an output band and controlling phases of transmitting and receiving signals;

and an antenna connection block **636** for switching the amplified signals to corresponding antennas of the RFB so that beams can be generated.

Boesel does not clearly teach at least one transmitter for converting the middle frequency signals received from the at least one middle frequency generating block into signals in a transmitting band;

However, in **column 8, lines 1-25**, Shapira teaches that a transmitter may be provided with a CATV diplexer for converting received signals into a transmitting band. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Boesel and Shapira, for the purpose of converting transmitted and received signals into cellular frequencies for use in the cellular network.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-6:30 M-F and alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Harvey



GEORGE ENG  
PRIMARY EXAMINER